Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Per.: \_\_\_\_\_\_\_\_

**4.6 Introduction to Geometry and Art Project HOMEWORK**

Directions: When you are asked to connect sides or draw a line, please use a ruler or straight edge so your work is neat.

1. Using the coordinate plane on the back, graph the following points to create the pre-image BOAT. Make sure you connect the sides.

B (8, 18) O (14, 18) A (14, 12) T (8, 12)

2. Draw a line from all four vertices (B, O, A, and T) to the center, which is the origin (0, 0).

3. Dilate BOAT by a scale factor of . What are the coordinates of your new vertices?

B’ (\_\_\_\_\_, \_\_\_\_\_) O’ (\_\_\_\_\_, \_\_\_\_\_) A’ (\_\_\_\_\_,\_\_\_\_\_) T’ (\_\_\_\_\_, \_\_\_\_\_)

4. Draw a line from all four vertices of B’O’A’T’ to the center (origin).

5. Dilate BOAT by a scale factor of . What are the coordinates of your new vertices?

B’’ (\_\_\_\_\_, \_\_\_\_\_) O’’ (\_\_\_\_\_, \_\_\_\_\_) A’’ (\_\_\_\_\_,\_\_\_\_\_) T’’ (\_\_\_\_\_, \_\_\_\_\_)

6. Draw a line from all four vertices of B’’O’’A’’T’’ to the center.

Follow-up questions:

Is B’O’A’T an enlargement or reduction from the pre-image BOAT?

How can you use the scale factor to determine that?

